

## ABSTRACT

Embodiments of the present invention are directed to method of fabrication of a broadband emitter array. Embodiments of the present invention may grown a first set of emitters possessing a first quantum well characteristic (e.g., quantum well thickness or composition). A portion of the first set of emitters is removed by etching. In place of the removed emitters, a second set of emitters is regrown with said second set of emitters possessing a different quantum well characteristic. By fabricating the emitters sets in this manner, a unitary emitter array may be fabricated that possesses an increased bandwidth, e.g., the first and second sets of emitters may be associated with different center wavelengths. Embodiments of the present invention may utilize emitter arrays fabricated in this manner in, for example, incoherently beam combined (IBC) lasers and in Raman amplifier systems.

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